

ATTACHMENT B

AREA OF REVIEW AND CORRECTIVE ACTION PLAN [40 CFR 146.84(b)]

1. FACILITY INFORMATION

Facility name: River Parish Sequestration – RPN 5

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Well name/location: RPN-5-INJ, Iberville Parish, Louisiana

Table 1-1: Permit Application Injection Well:

Well	Parish/State	Latitude (NAD27)	Longitude (NAD27)
RPN-5-INJ	Iberville, LA		

2. COMPUTATIONAL MODELING APPROACH

[REDACTED]

[REDACTED]

Table 2-1: Proposed schedule for bringing RPS North Fairway injection wells online

[REDACTED]

The simulation input file, as well as documents describing porosity and permeability distributions, are uploaded on GSDT along with this application.

2.1 Model Background

Model name: GEM simulator (version 2022.10)

Model authors/institution: Computer Modeling Group, LLC

The industry standard software, GEM simulator from Computer Modeling Group, was used to perform all CO₂ storage forward modeling at RPS. It can model all miscible CO₂ trapping and injection mechanisms including structural, dissolution, residual gas trapping, and mineralization, as well as simulate gas condensation, viscosity reduction, and the formation of a miscible, multi-unit, solvent bank. It has been deployed in many research and real-world field studies.² GEM uses the Peng-Robinson or Soave-Redlich-Kwong equation of state (EoS) to predict phase equilibrium

[REDACTED]

[REDACTED]

compositions and densities, and pressure and saturation values for each grid cell are calculated using a finite-difference approximation method.³

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

³ CMG GEM User Guide version 2021.10

■ [REDACTED]

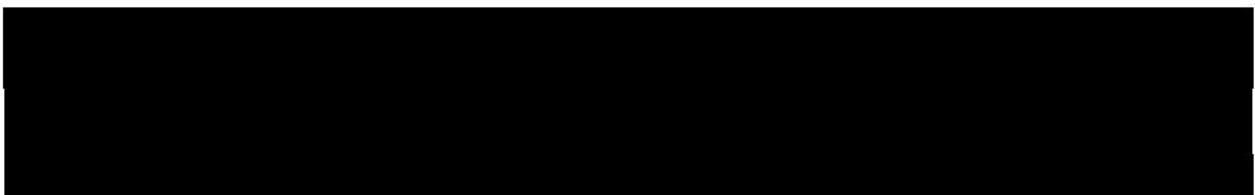
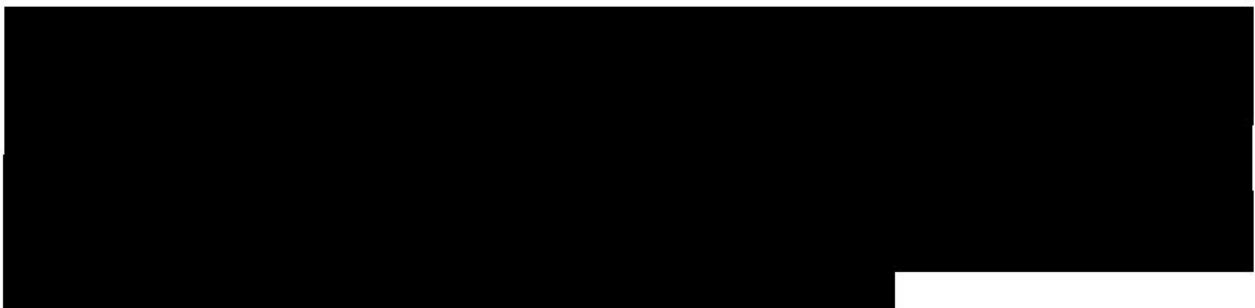
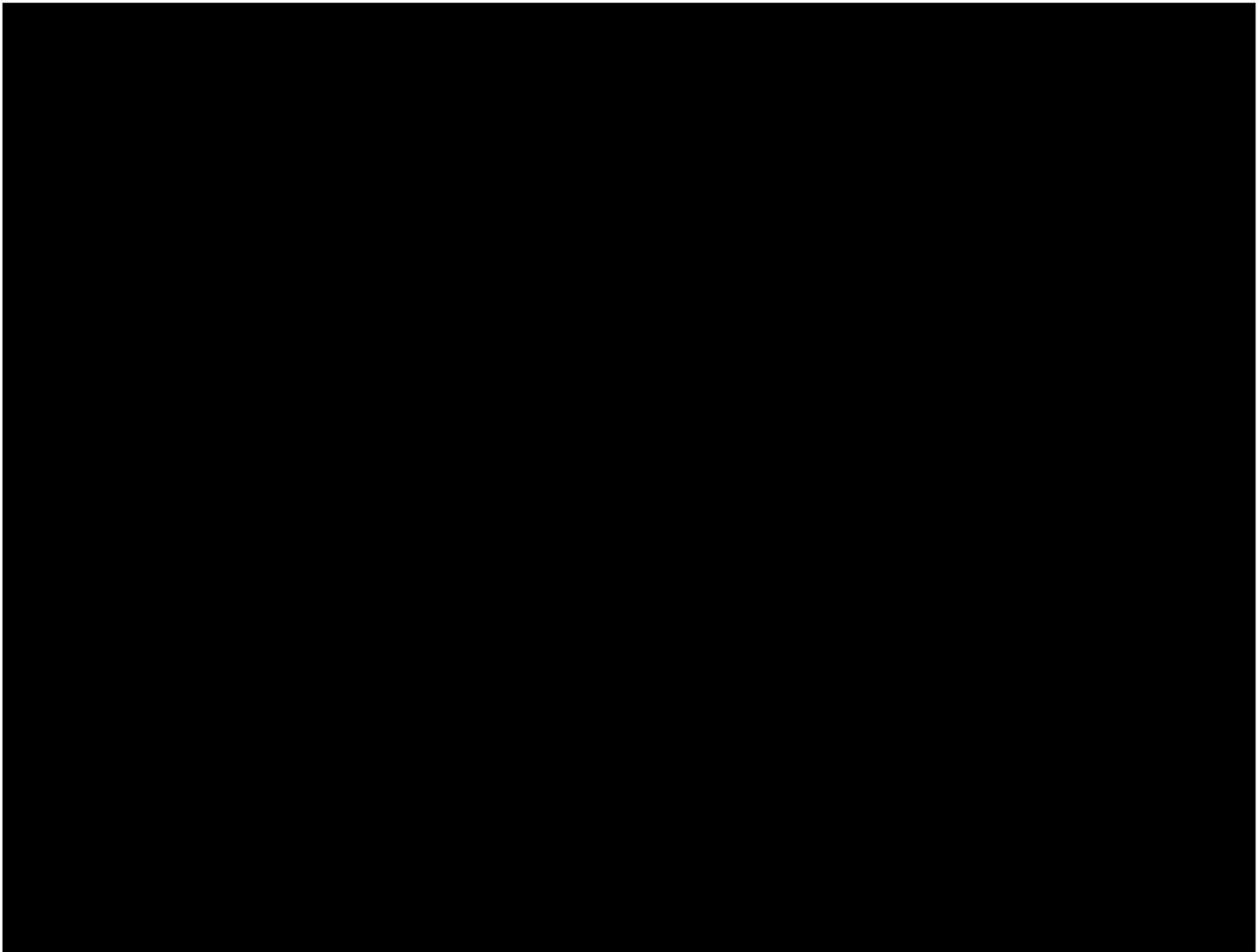
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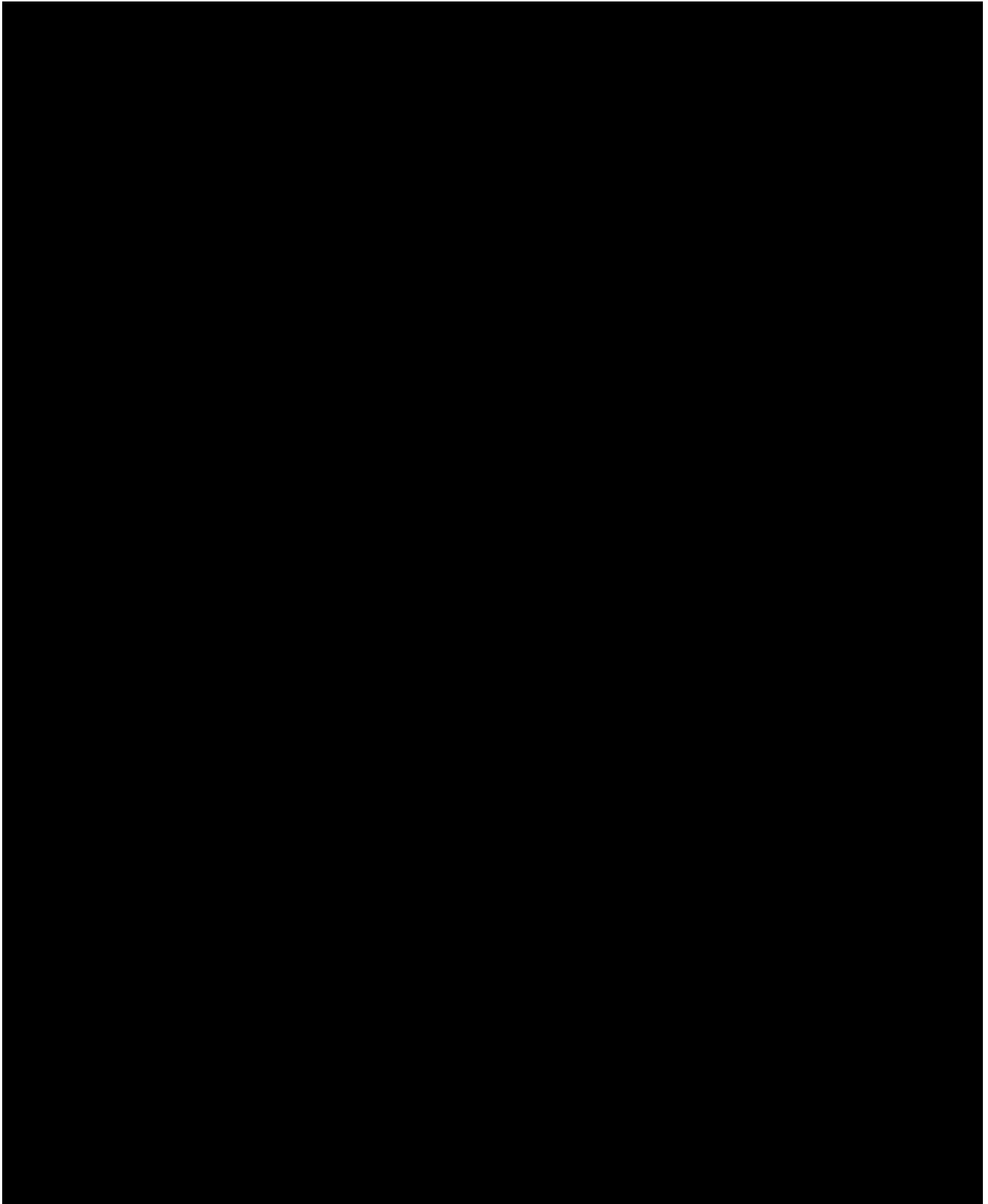
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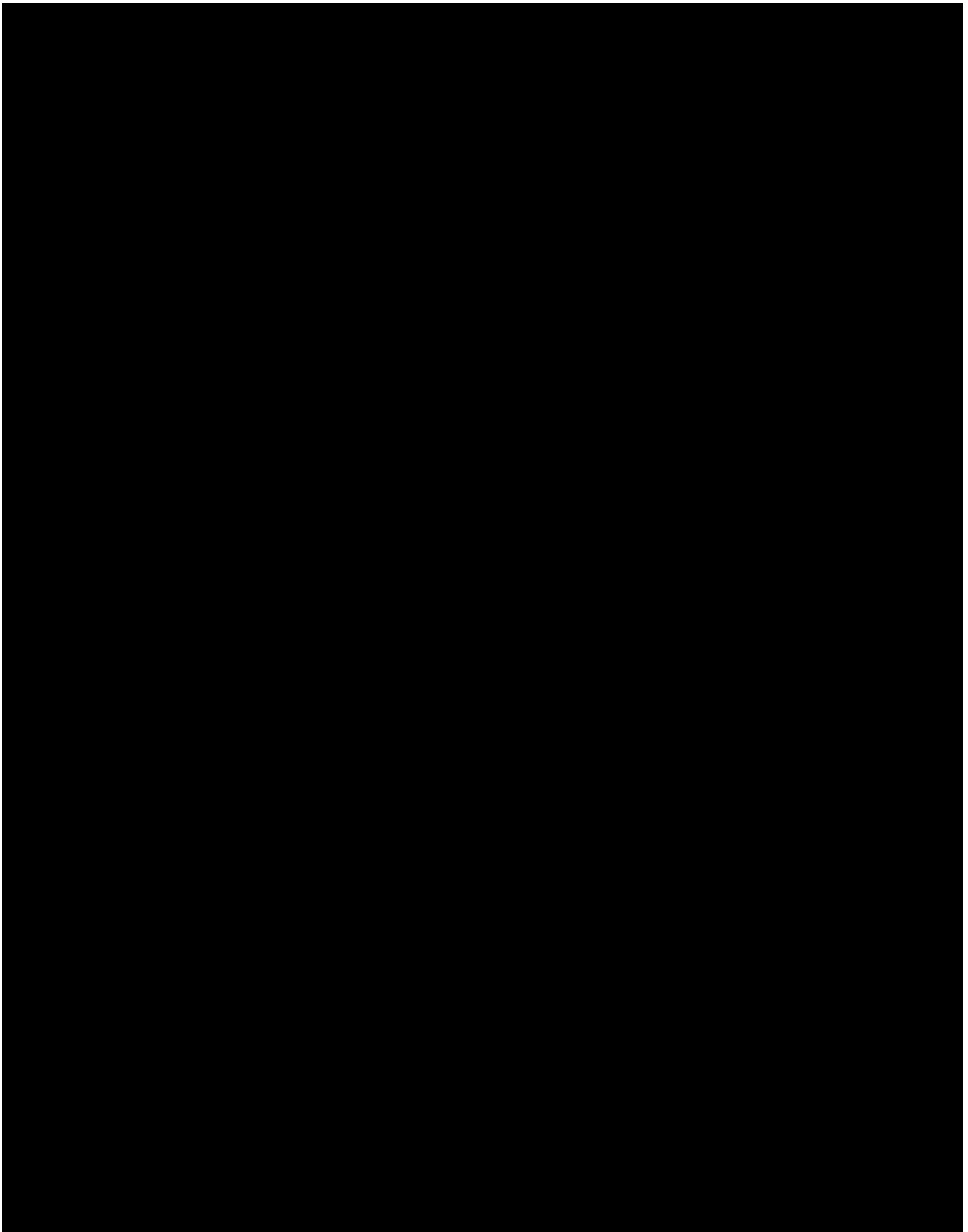


2.2 Site Geology and Hydrology

A review of the geological and hydrological context is provided in the site characterization section of the application (**Section 2** of the **Application Narrative**). This section summarizes conclusions that are relevant to the AoR modeling effort.

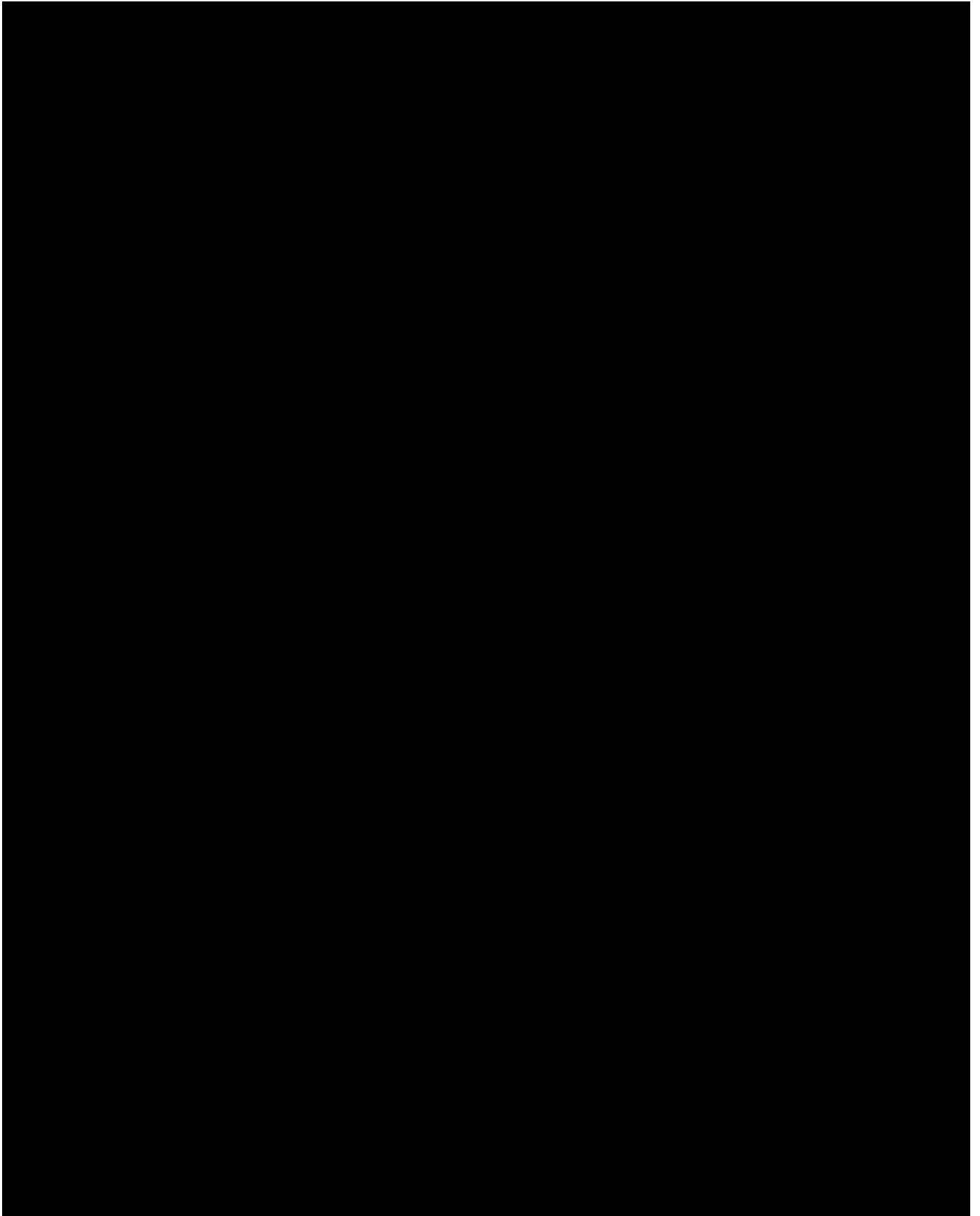
¹⁰ Bachu, S., “Drainage and imbibition CO₂/brine relative permeability curves at in situ conditions for sandstone formations in western Canada,” *Energy Procedia* 37 (2013) pp. 4428–4436.

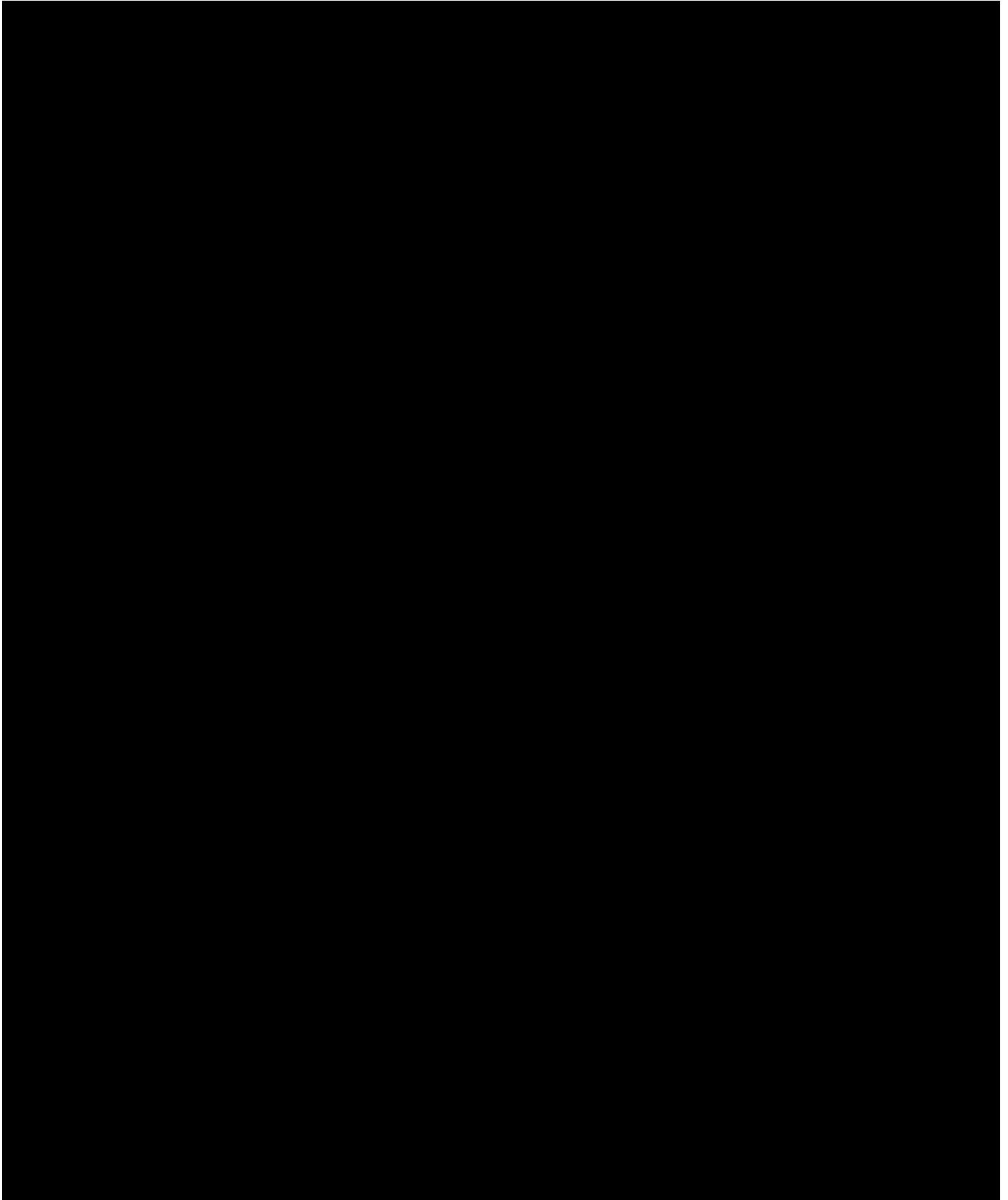


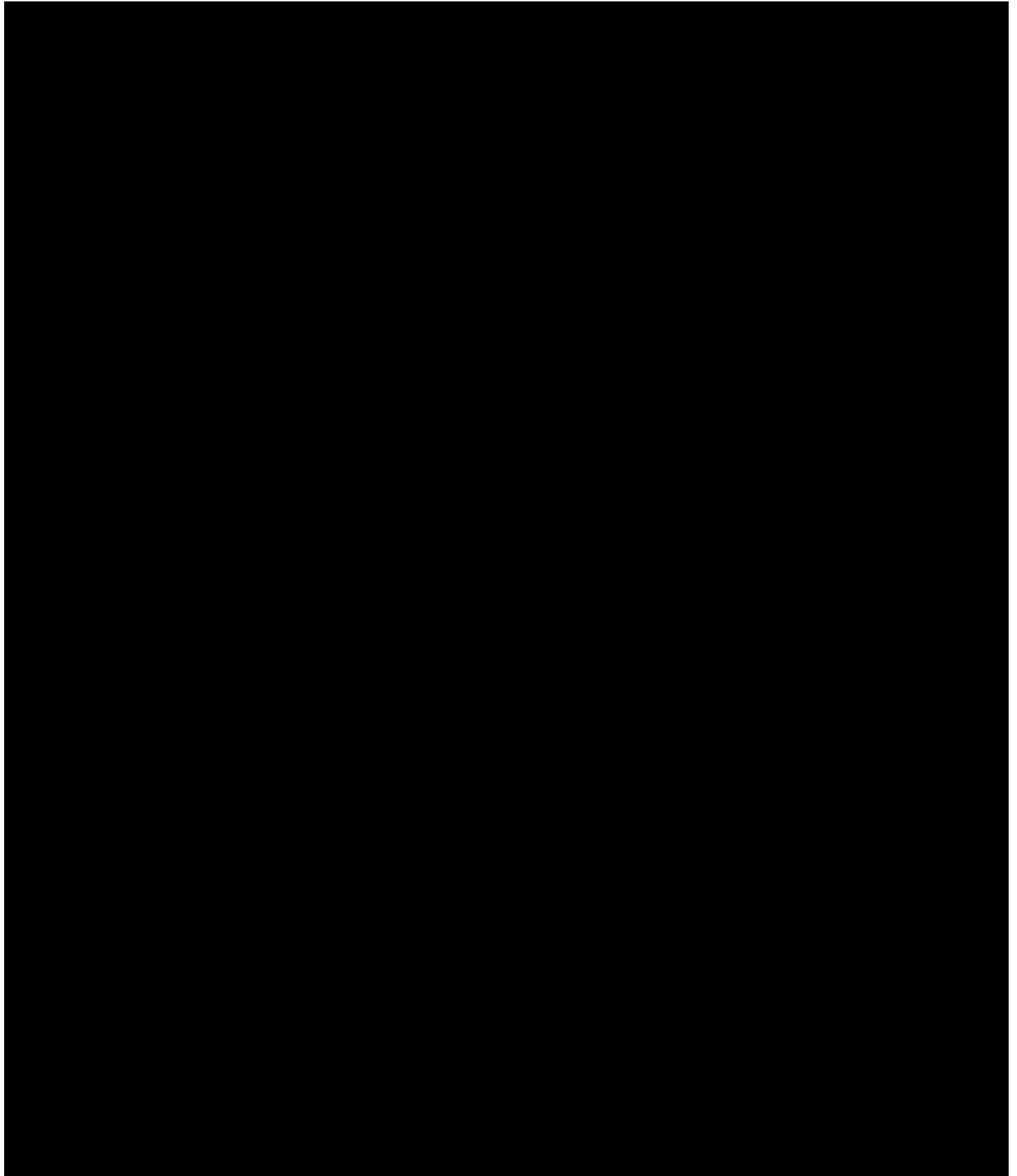


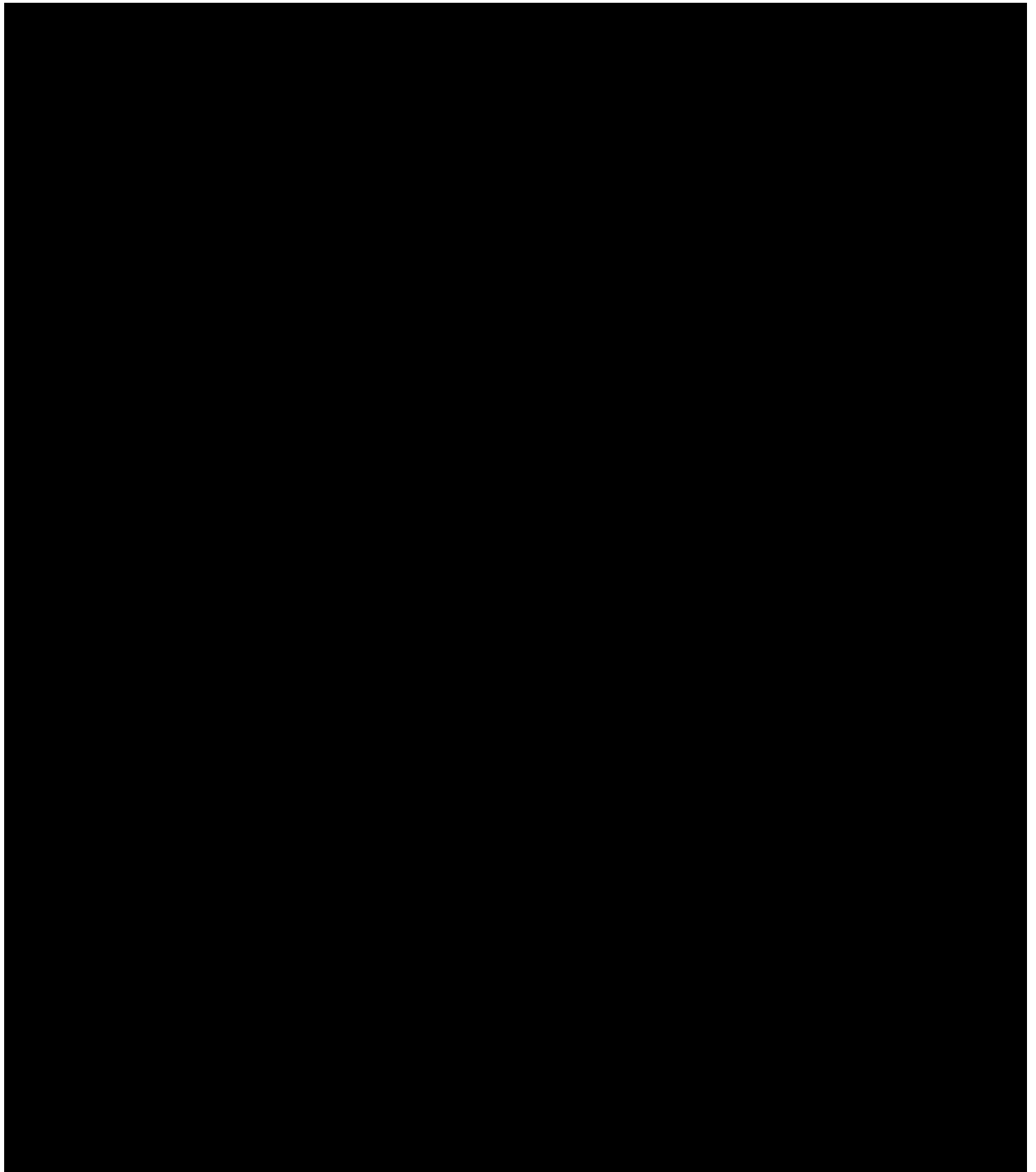
¹¹ Bachu, S. “Drainage and imbibition CO₂/brine,” 2013.

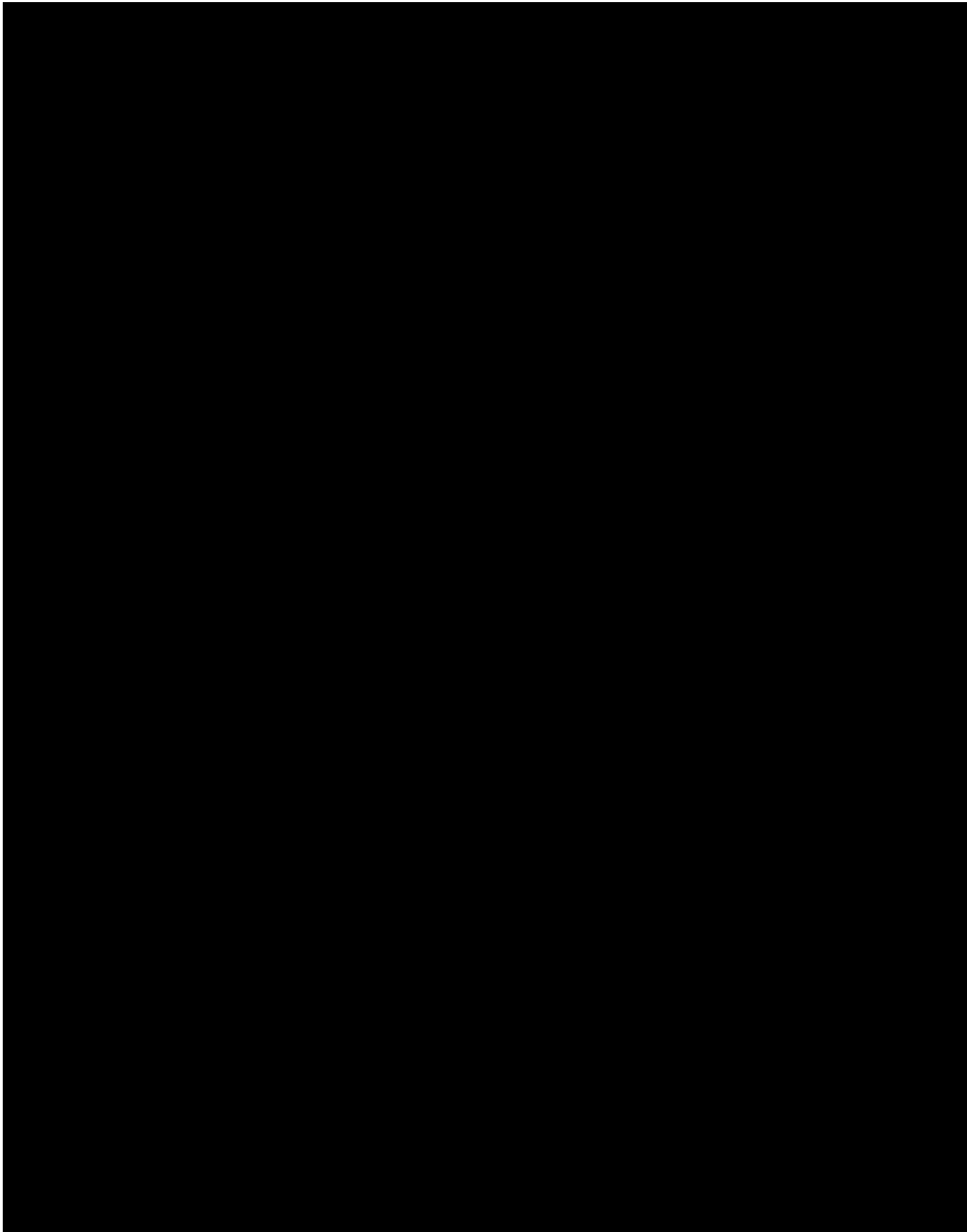
¹² Lyons, W.C. (2010), “Chapter 1 – Basic Principles, Definitions, and Data,” in *Working Guide to Reservoir Engineering* (Texas: Gulf Professional Publishing, 2010).

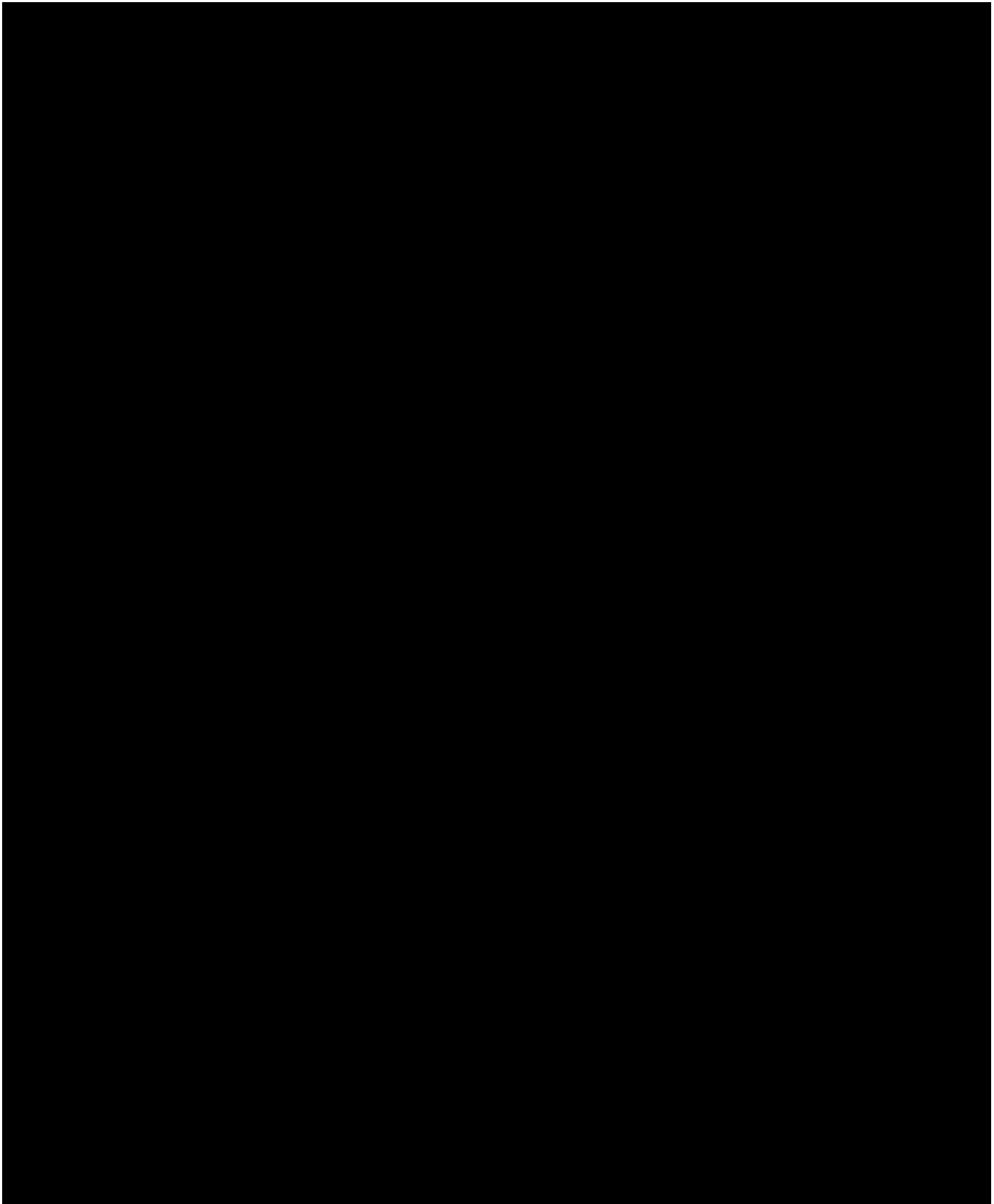


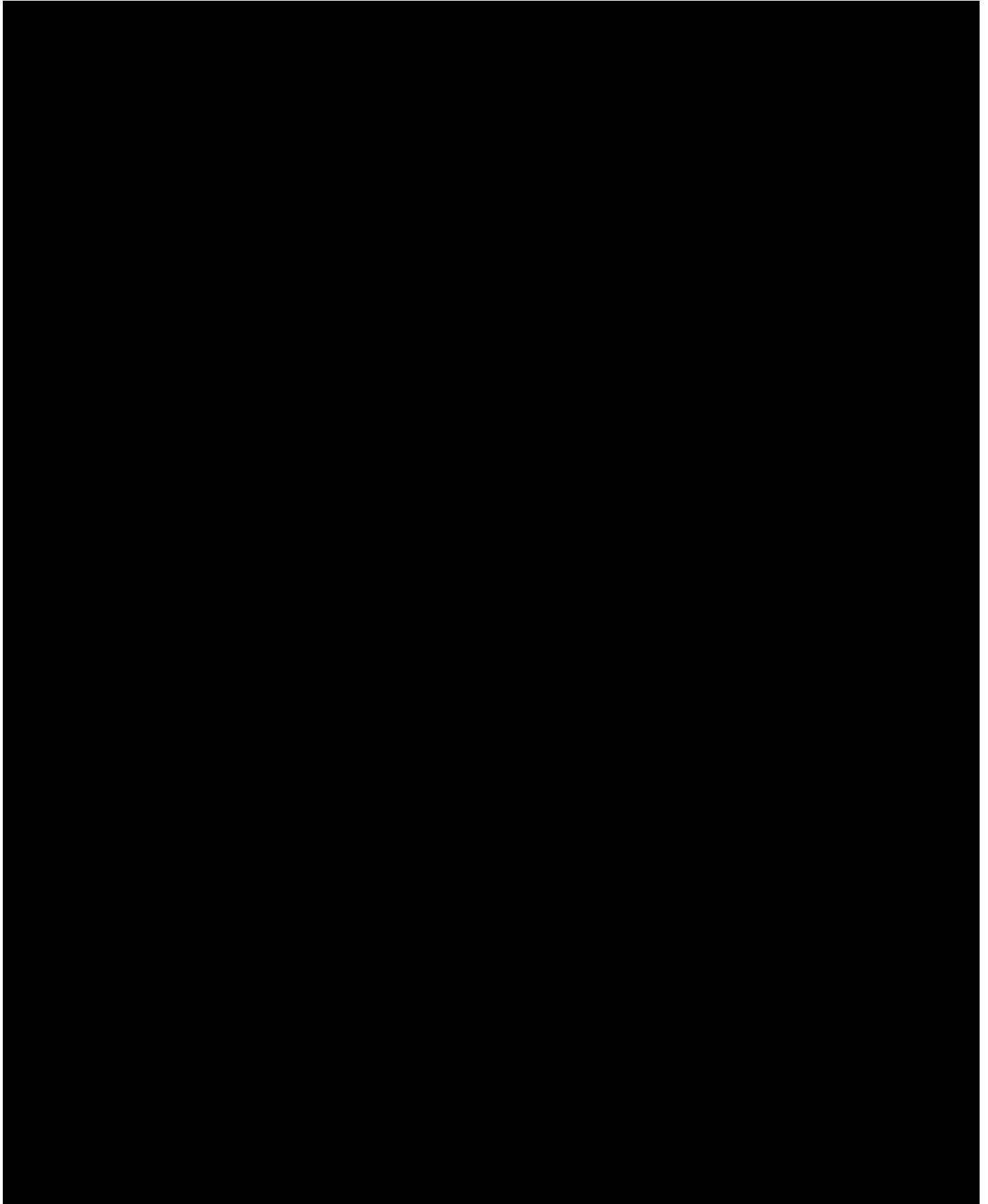


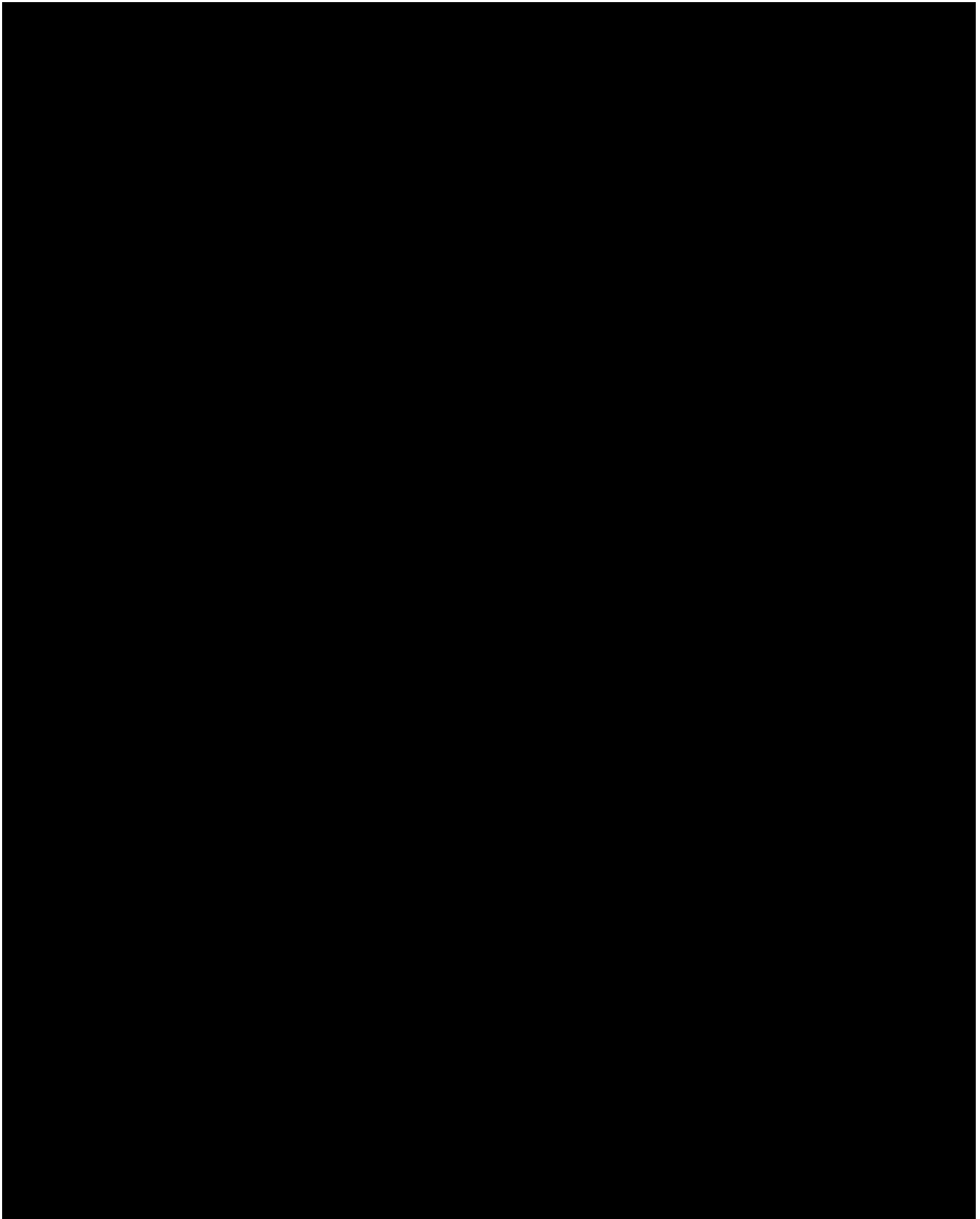


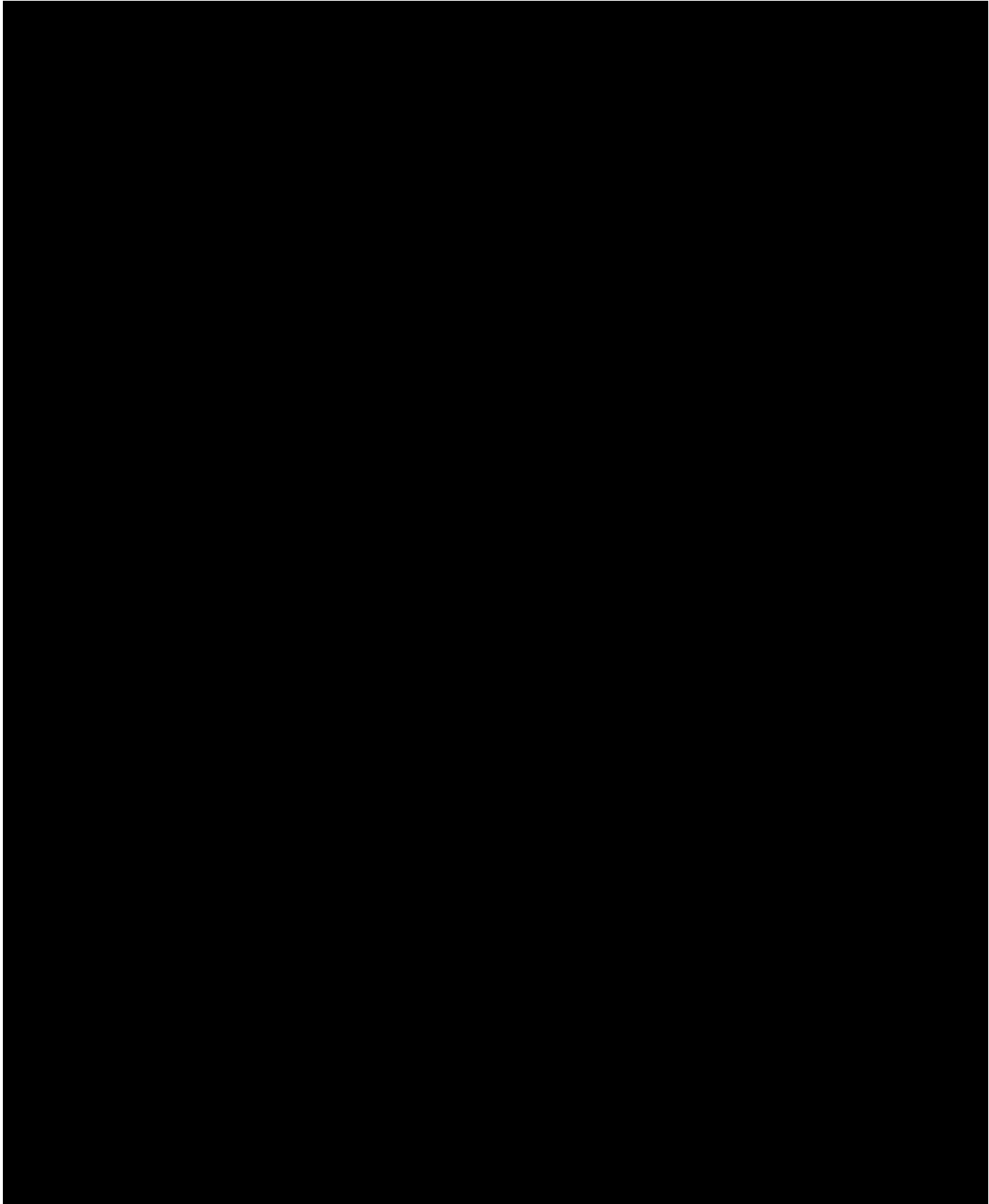


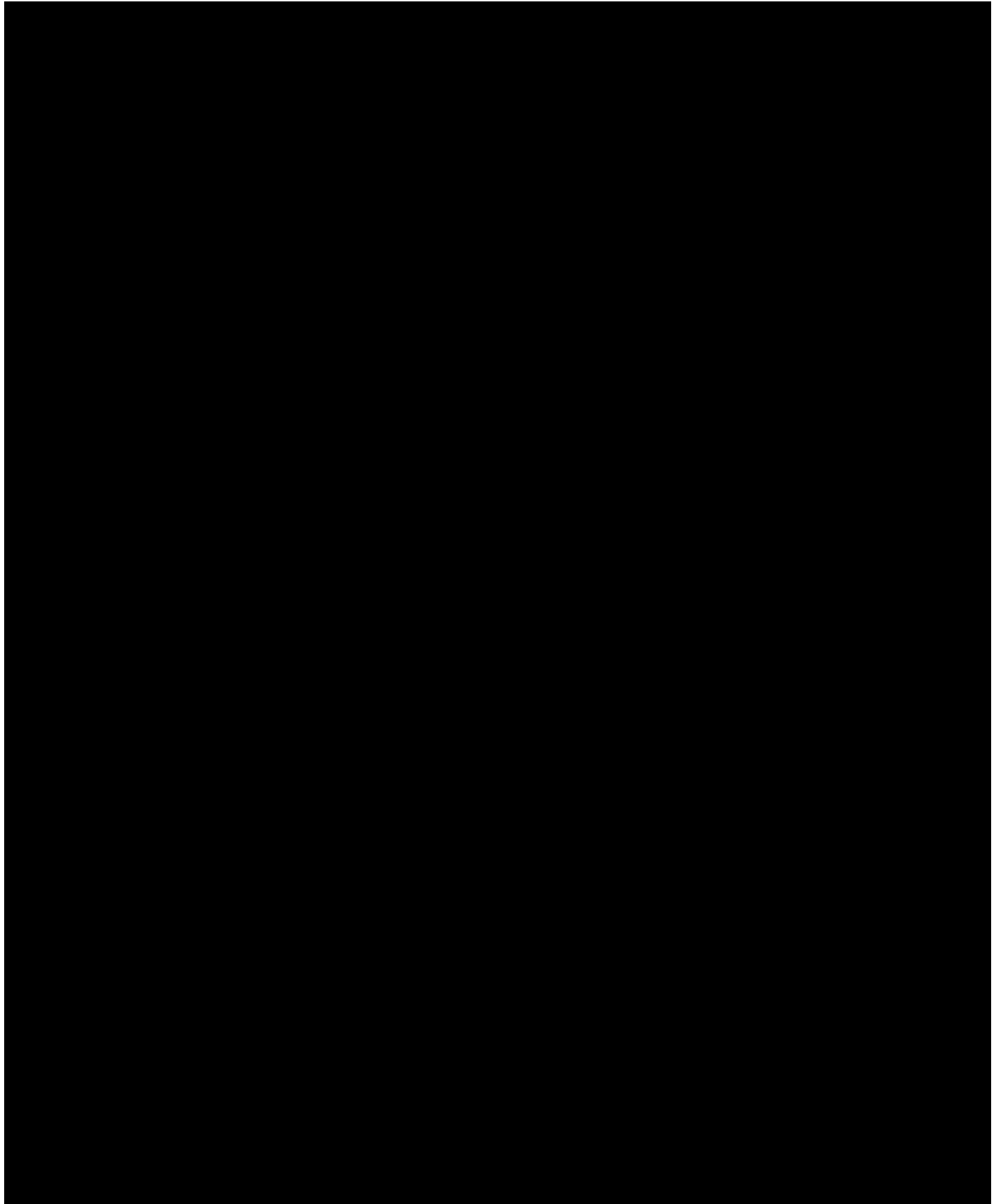


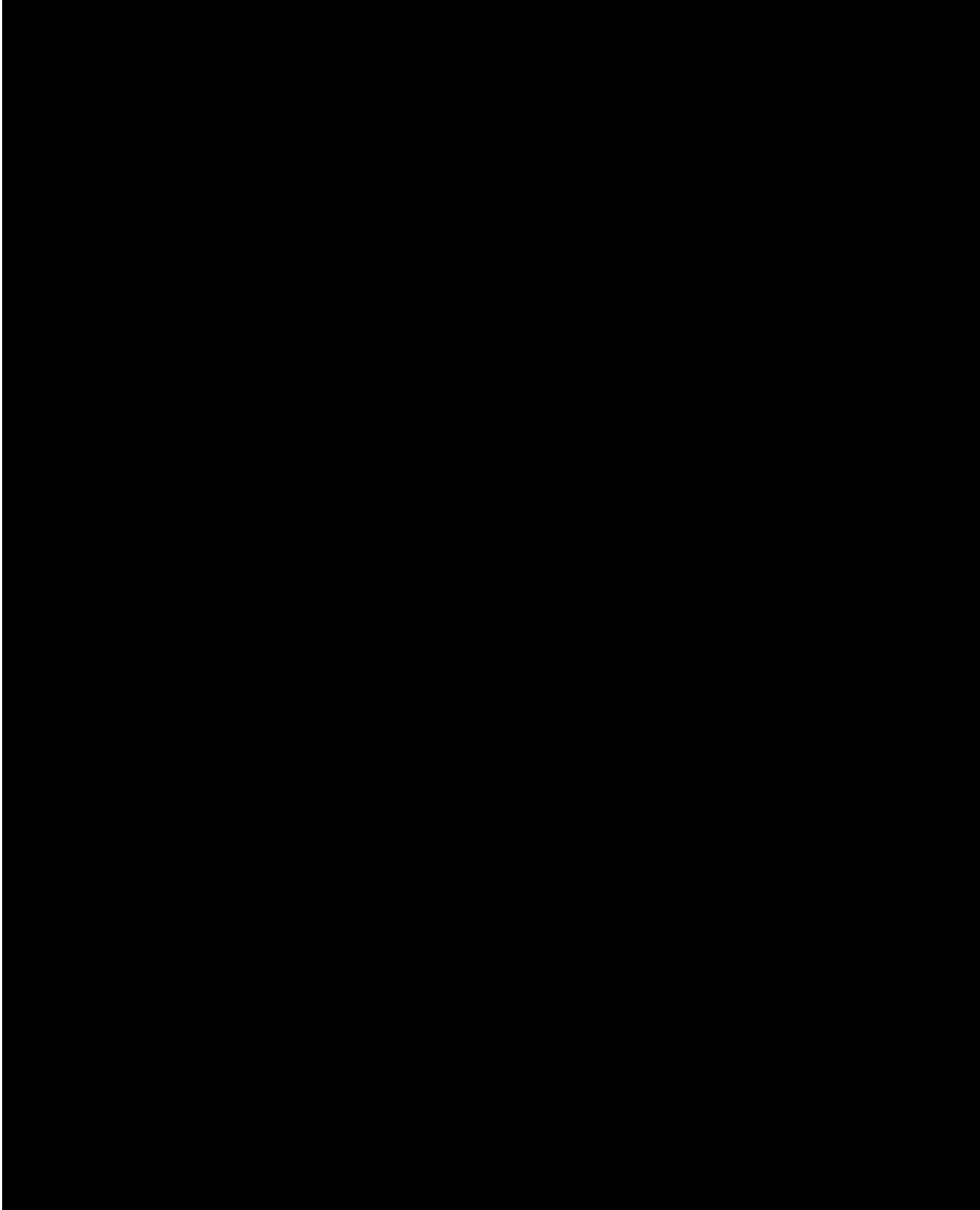


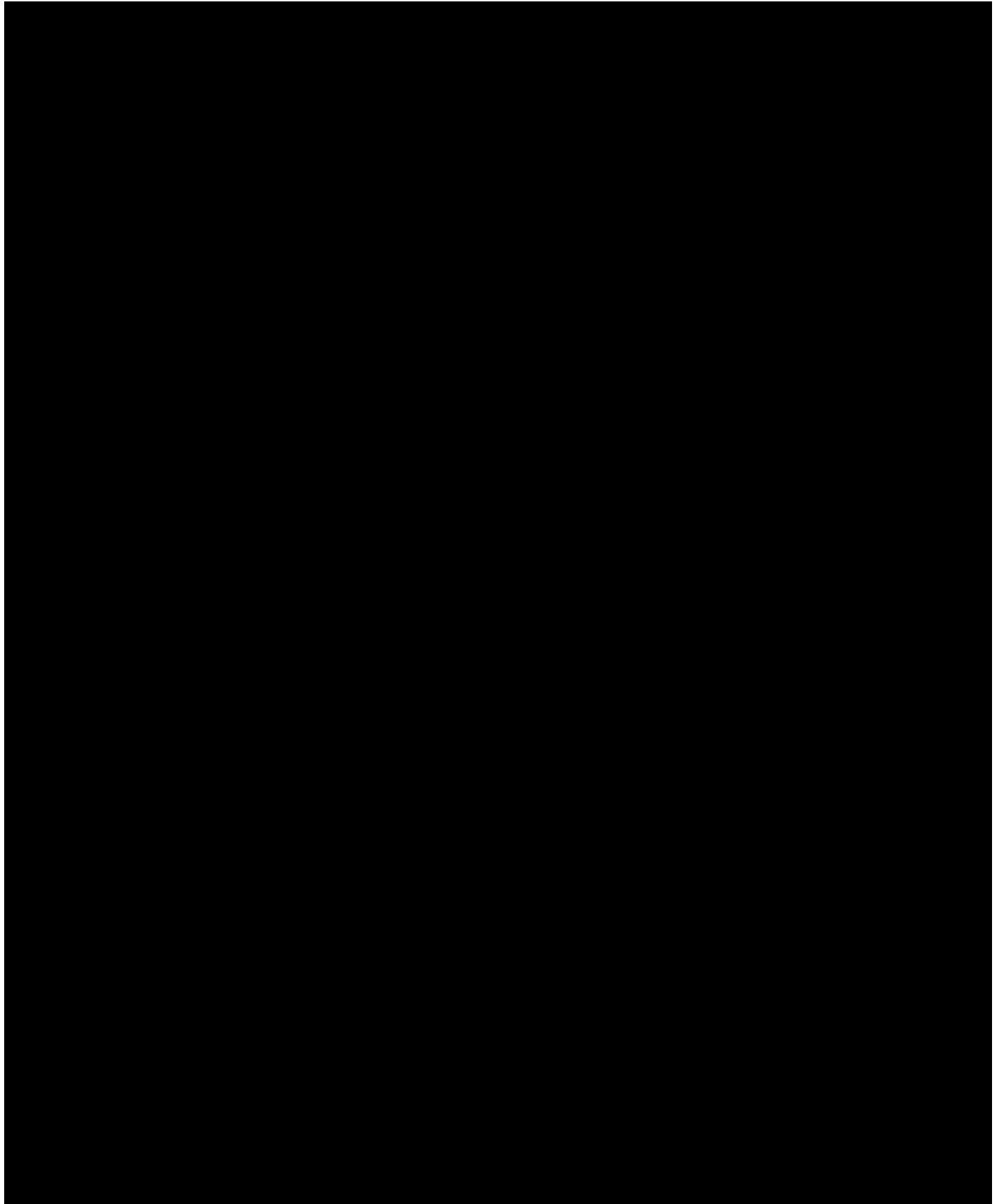


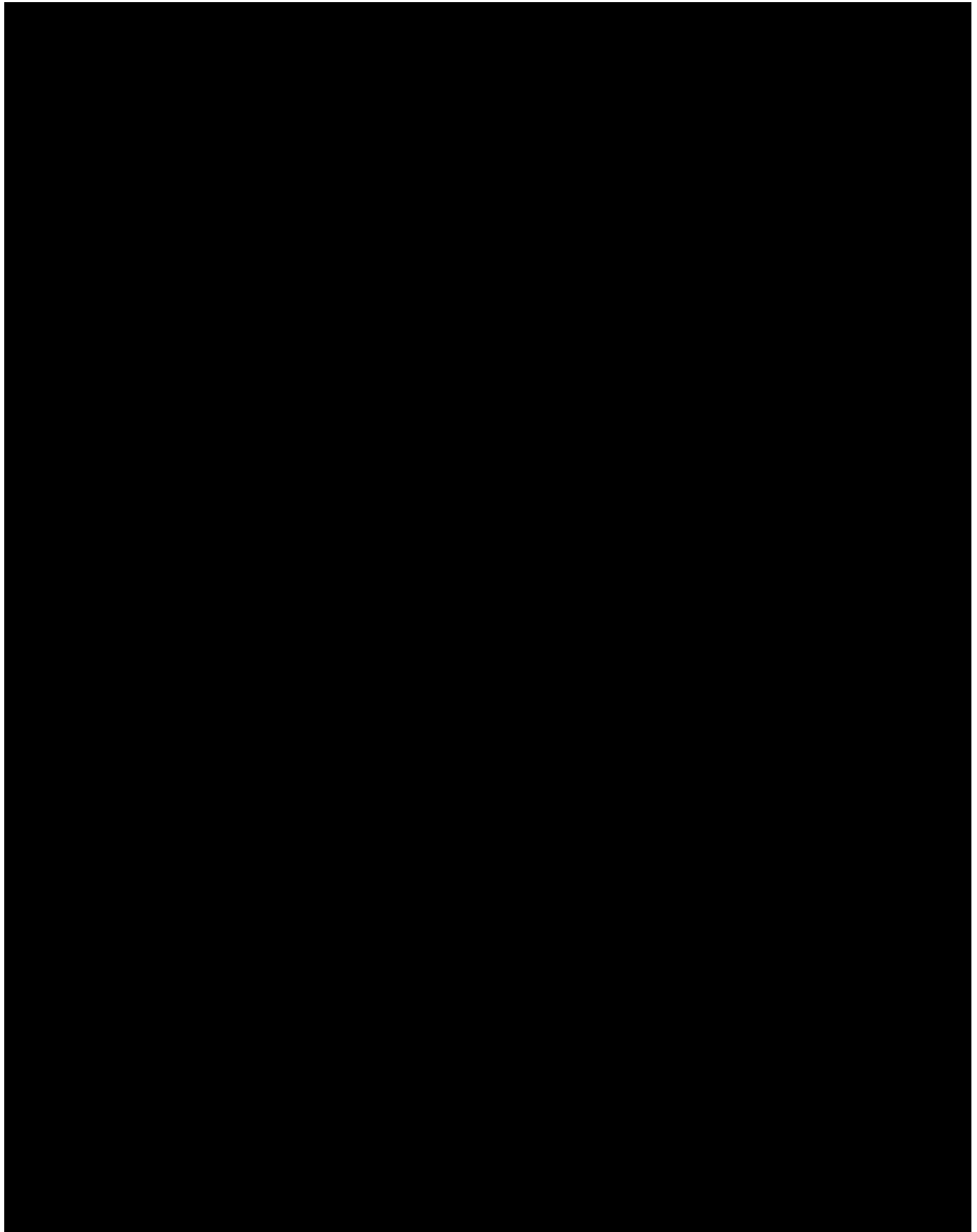


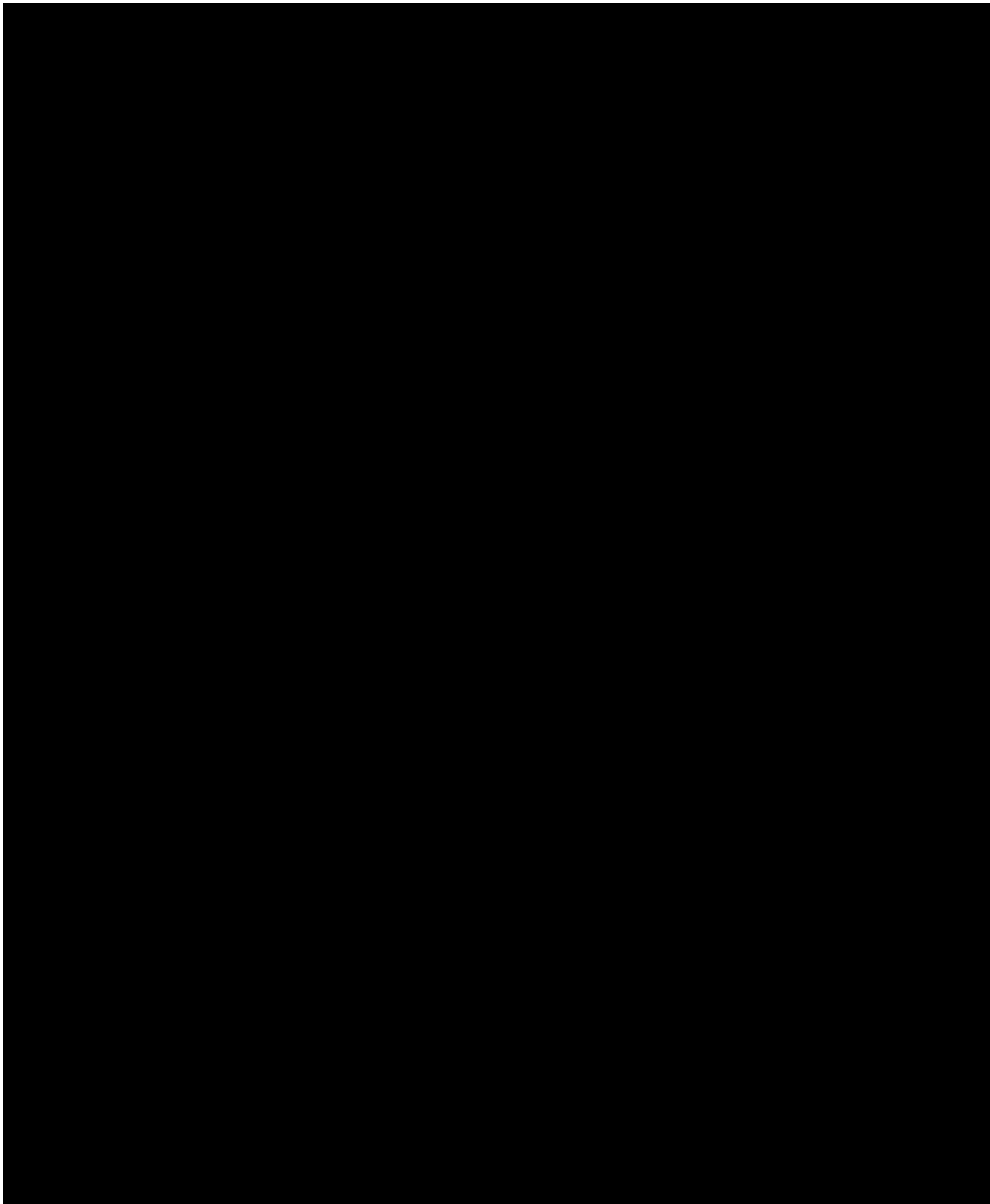


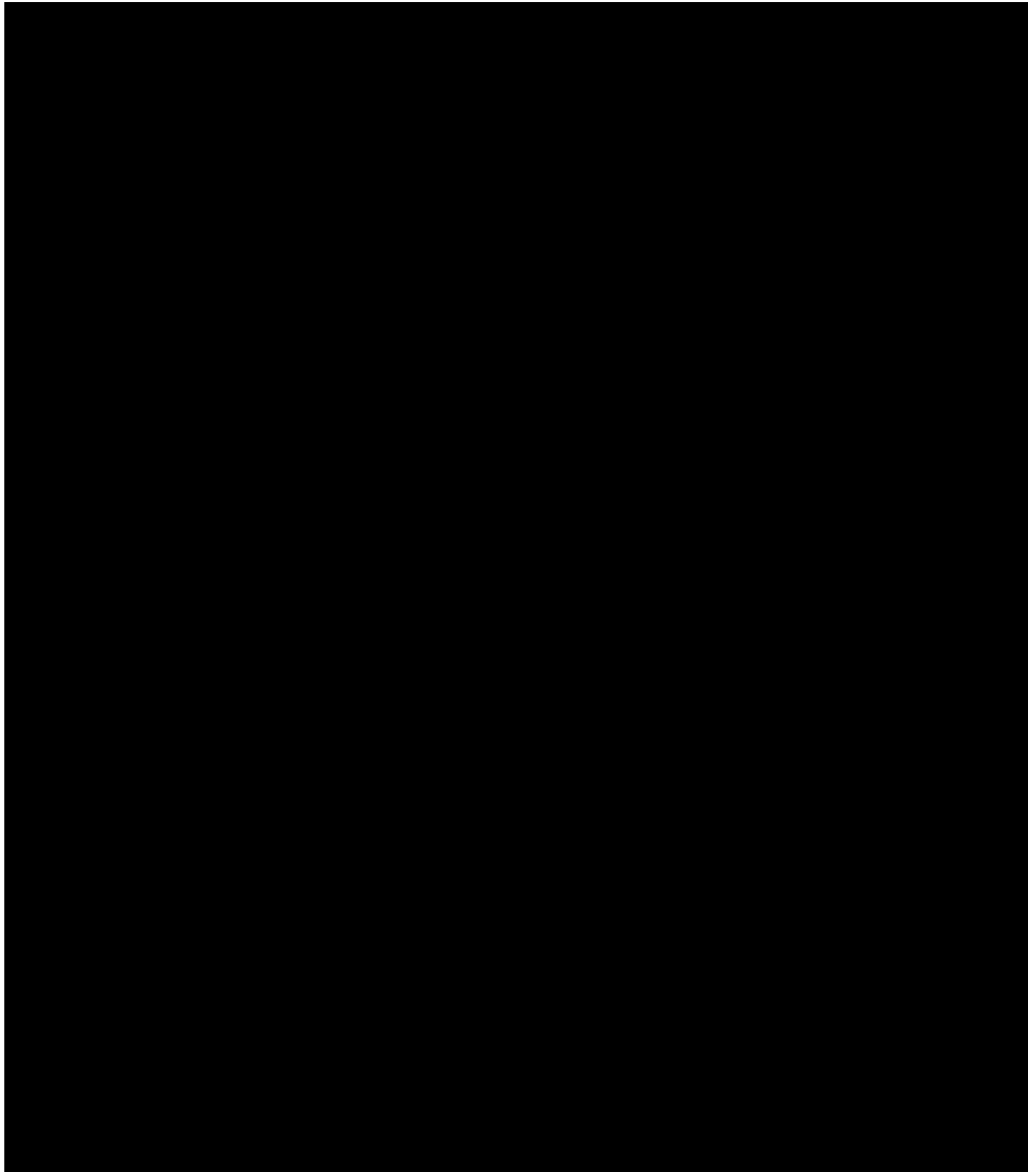






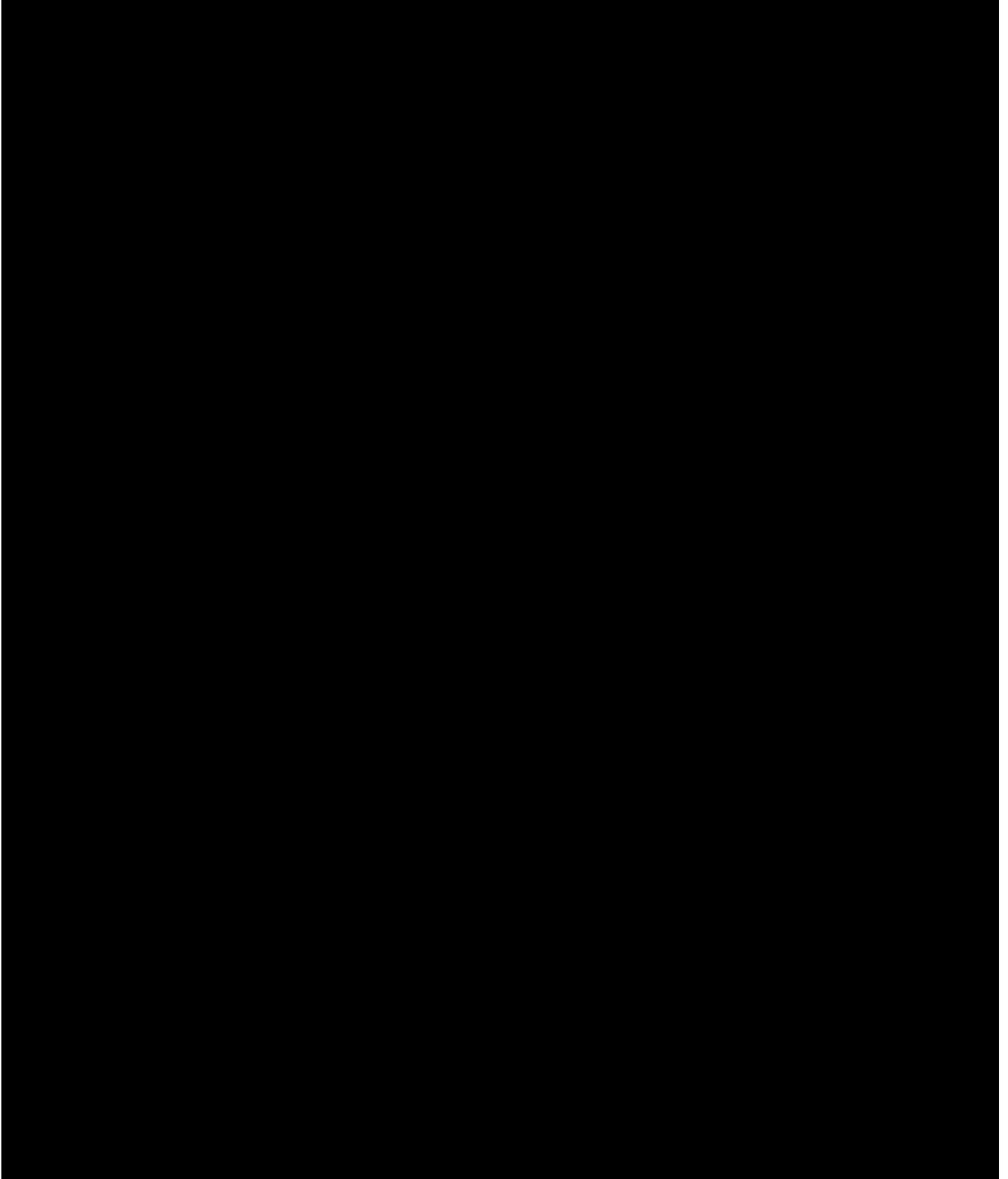






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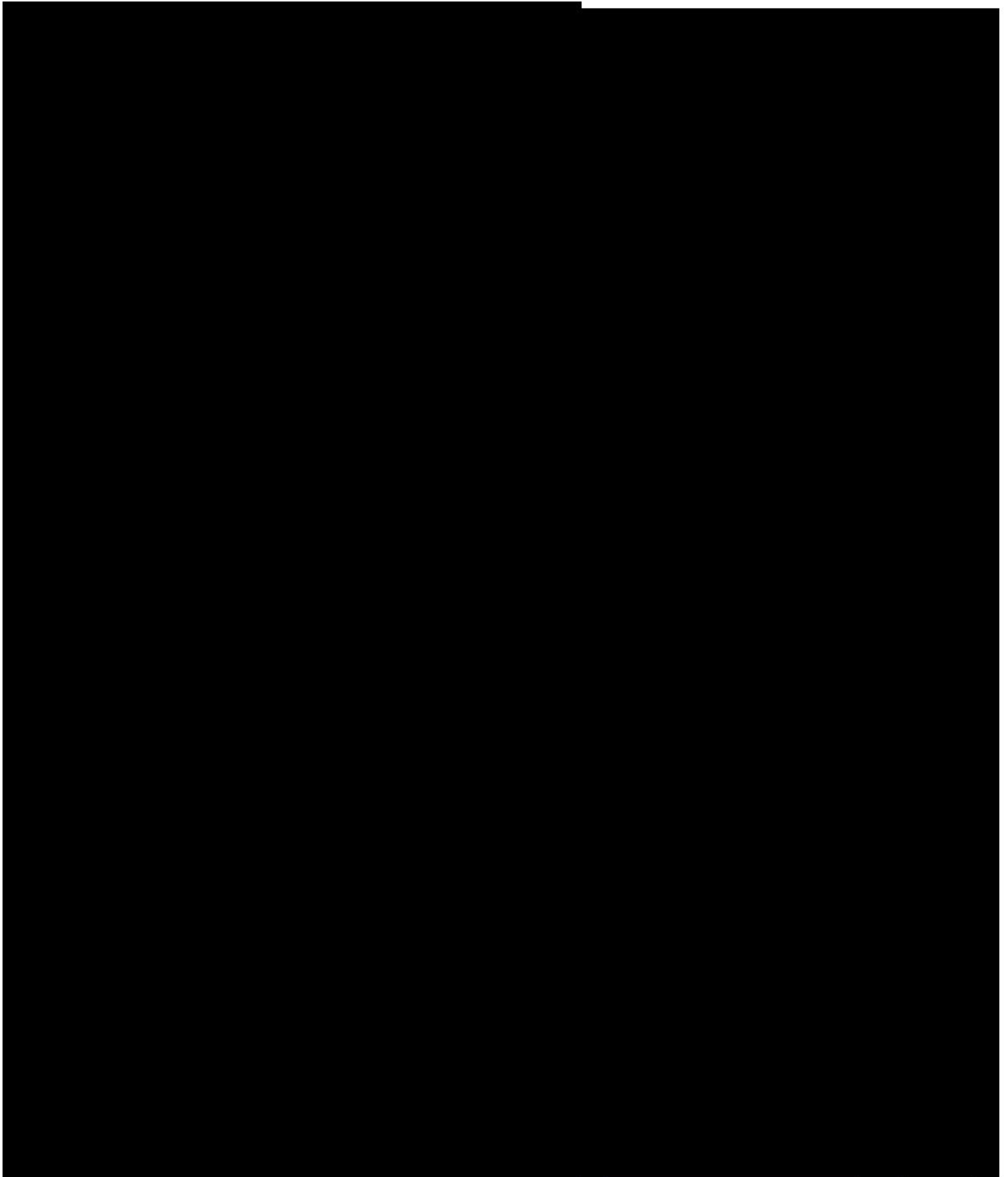


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RPS Project	July 2023	

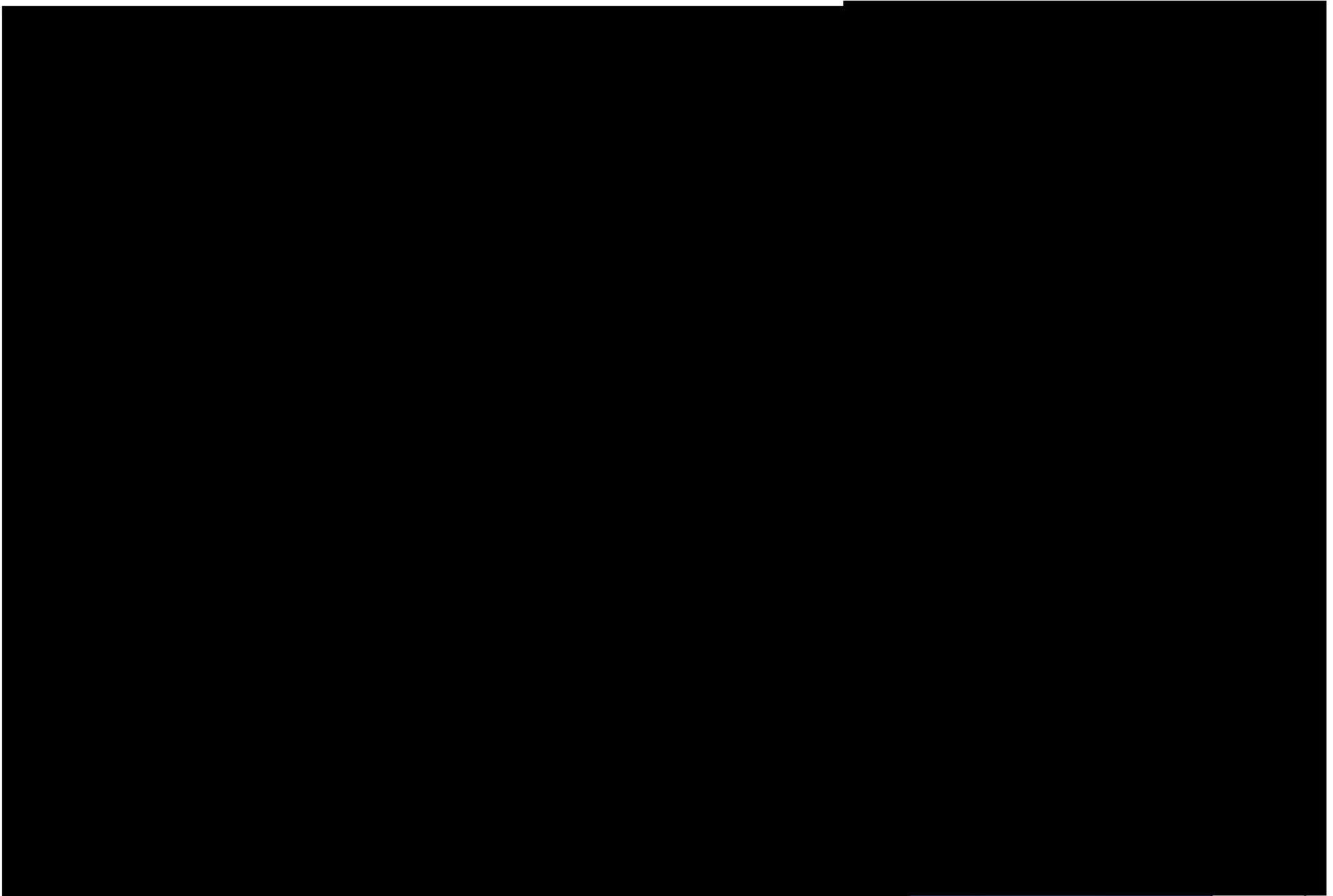


RPS Project

July 2023

Figure
2.3-3

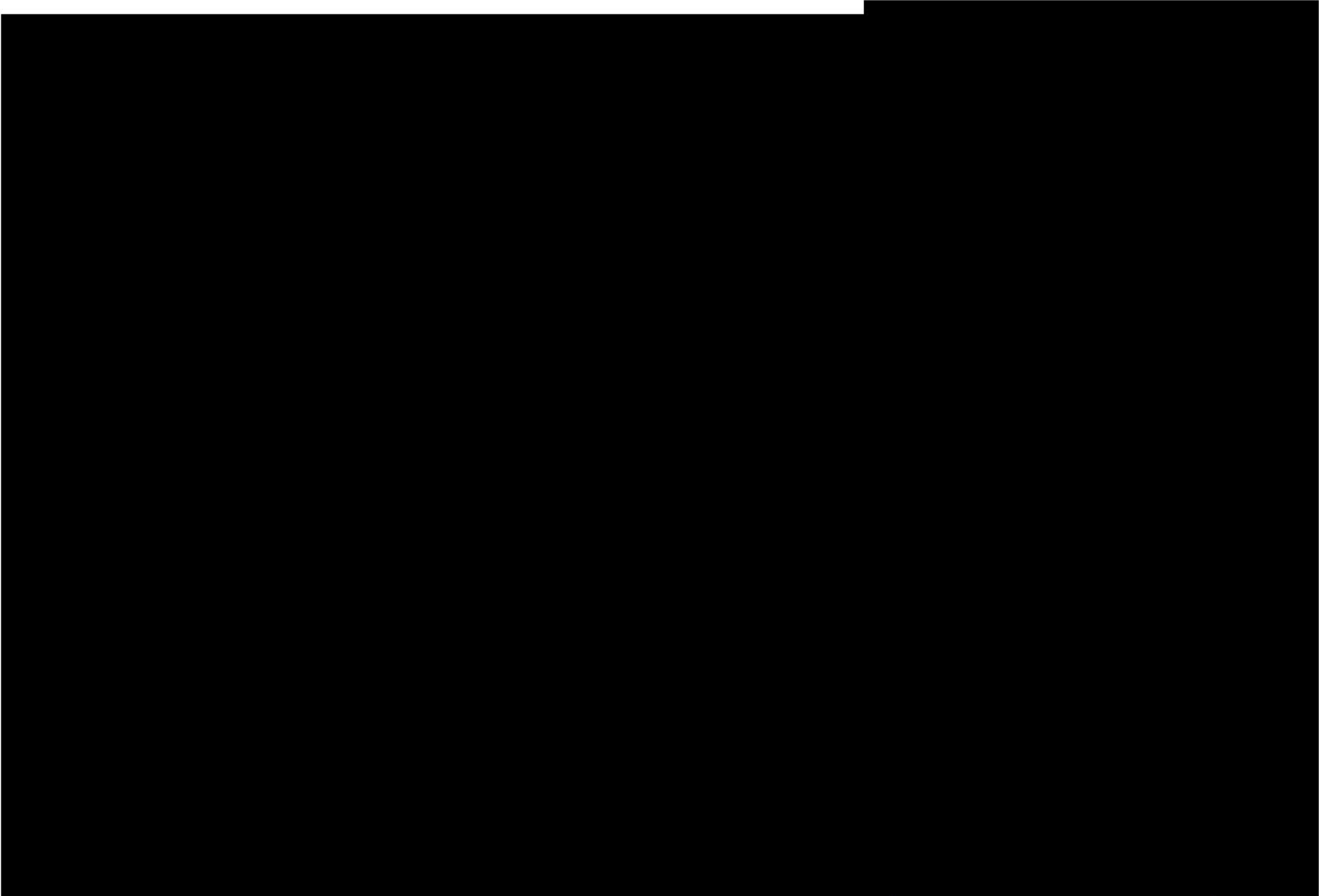




RPS Project

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Figure
3.1-2



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Figure
3.1-9

